

## ABSTRACT

Noise and vibration of a helically-toothed-belt transmission device driven under heavy load or at a high-speed rotation, are reduced. A backlash "D" is selectively enlarged in a helically-toothed-belt transmission device that transmits drive force by meshing between a helically toothed belt and a helically toothed pulley. That is, a tooth helix angle " $\theta$ " is set in a range of  $-0.2 \leq 1 - W \cdot \tan \theta / P_t \leq 0.75$ , with "Pt" being a tooth pitch, " $\theta$ " a tooth helix angle, and W the width of the belt. The backlash "D" between the helically toothed belt and the helically toothed pulley is set to be 1.6%-3% of the tooth pitch "Pt".